The amendments to the original specification incorporated in the specification submitted herewith, are as follows:

1. Amendment to paragraph on page 1, lines 6-17:

This invention is a division of U.S. application Serial No. 09/782,888, filed February 13, 2001, filed by the inventors herein, for a Rotational Grip Twist Machine and Method for Fabricating Bulges of Twisted Wire Electrical Connectors, now U.S. Patent _____. This invention and application is also related to inventions for High-Speed, High-Capacity Twist Pin Connector Fabricating Machine and Method, Wire Feed Mechanism and Method Used for Fabricating Electrical Connectors, and Pneumatic Inductor and Method of Electrical Connector Delivery and Organization, described in ~~the concurrently-filed~~ U.S. patent applications Serial Nos. ~~**190.326; 190.327; and 190.329**~~ 09/782,987; 09/782,888; and 09/780,981, respectively now U.S. Patents 6,584,677, 6,530,511, and 6,528,759, respectively, all of which are assigned to the assignee hereof, and all of which have at least one common inventor with the present application. The disclosures of these ~~concurrently filed applications~~ U.S. Patents are incorporated herein by this reference.

2. Amendment to paragraph on page 8, line 28 through page 9, line 6:

After gripping the wire by activating the first pneumatic cylinder, the second pneumatic cylinder was activated to rotate the sprocket in the anti-helical direction. However, the throw of the second pneumatic cylinder, and the amount of rotation of the sprocket, was insufficient to completely form a bulge with a single rotational movement. Instead, two [[of]] separate rotational movements were required to completely form the bulge. After the rotation, the lower clamping device released its grip on the wire while the sprocket rotated in the reverse direction. Upon rotating back to the initial position again, the lower clamping device again gripped the wire and another rotational movement of the sprocket and gripping device was executed to finish forming the bulge.

3. Amendment to paragraph on page 10, lines 14-28:

One improved aspect of the present invention involves forming bulges in helically coiled wire in ~~the such manner~~ such a manner that allows twist pins to be more rapidly and more efficiently fabricated compared to previous techniques. Another improved

aspect of the present invention involves fabricating twist pins having more uniform, more controlled, more precisely positioned and more symmetrically shaped bulges. Another improved aspect of the present invention involves fabricating bulges and twist pins without using reciprocal motions. The lost motion of return strokes and the latency associated with reciprocation decreases the speed of fabricating the twist pins. The necessity to accelerate relatively massive components is avoided by using continuous movements or intermittent movements which do not involve changes of direction and which tend to conserve energy and momentum without requiring acceleration of massive components. Another improved aspect is that wire slippage is avoided during the fabrication of the bulges. Other aspects of the present invention allow the bulges and twist pins of different sizes to be fabricated conveniently using the same machine.

4. Amendment to paragraph on page 12, lines 15-21:

A preferred technique of avoiding wire slippage involves repositioning the strands of the wire into a cross-sectional configuration having a <u>non-uniform</u> radial component when gripping the strands. At least one of the clamp members includes jaw members with crescent shaped contact surfaces which reposition the strands into the cross-sectional configuration having the <u>non-uniform</u> radial component. The <u>non-uniform</u> radial component of the cross-sectional configuration allows more torque to be applied to the wire without slippage.

5. Amendment to paragraph on page 13, line 18 through page 14, line 6:

The relative rotation of the clamp members in complete revolutions allows a bulge to be formed during a relative rotational interval of less than one complete revolution. Multiple incomplete movements in the anti-helical direction are avoided when forming each bulge. The single bulge-forming movement results in twist bulges which have more uniform and symmetrical characteristics. The rotational interval during which the clamp members are open allows the bulges to be more precisely located along the segment of wire and allows the ends of the segment to be accurately ~~positions~~ <u>positioned</u> for severing. As a result, the twist pin has more consistent dimensions and characteristics, because the single rotational movement of creating each bulge is less likely to induce bends or other characteristics in the twist pin which

make it non-coaxial along its length. The continual relative rotational movement of the clamp members allows the twist pins to be fabricated without incurring the inefficient lost motion and the latency associated with reciprocal motions, thereby increasing the speed and efficiency of fabricating the twist pins. The necessity to accelerate relatively massive components is avoided by using the continuous relative rotational movements which do not involve changes of direction and which conserve energy and momentum without requiring changes of direction and substantial acceleration of massive components. These improvements are achieved while still allowing twist pins of different sizes and dimensions to be fabricated.

6. Amendment to paragraph on page 16, lines 8-19:

The present invention is preferably incorporated in an improved machine 100 which fabricates twist pins 50 (Fig. 1), and ~~in improved~~ an improved methodology for fabricating bulges 58 (Fig. 1) of twist pins, as shown and understood by reference to Fig. 6. The twist pins are fabricated from the gold-plated, beryllium-copper wire 52 which is wound on a spool 102. A wire feed mechanism 104 of the machine 100 unwinds the wire 52 from the spool 102 and accurately feeds the wire to a bulge forming mechanism 106 which is located below the wire feed mechanism 104. The bulge forming mechanism forms the bulges 58 (Fig. 1) at precise locations along the length of the wire 52. The positions where the bulges 58 are formed ~~is established~~ are established by the advancement of the wire 52 by the wire feed mechanism 104. The bulge forming mechanism 106 forms the bulges by gripping the wire 52 and untwisting the wire in the reverse or anti-helical direction.

7. Amendment to paragraph on page 17, line 28 through page 18, line 3:

More details concerning the twist pin fabricating machine 100 and method of fabricating twist pins are described in the above-referenced and concurrently-filed U.S. patent application, Serial No. ~~190.326~~ 09/782,987. Specific details concerning the wire feed mechanism 104 are described in the above-referenced and concurrently-filed U.S. patent application, Serial No. ~~190.327~~ 09/782,991. However, some of the more specific but nevertheless general details of the wire feed mechanism 104 are next described as context for the present invention.

8. Amendment to paragraph on page 22, lines 7-15:

As shown in ~~Fig. 14~~ Fig. 8, the rotating gripping assembly 292 is connected to a mounting bracket 302, and ~~a mounting~~ the mounting bracket 302 is connected to the support plate 124 of the machine 100 (Fig. 7). The drive motor 294 is connected to a mounting plate 304 which is attached to the support plate 124 by a bracket 306 (Fig. 7). The belt 296 extends through an opening (not shown) in the support plate 124. The rotating gripping assembly 292 is mounted on a base plate 308, and the base plate 308 is connected to the mounting bracket 302. As shown in Fig. 10, all of the components of the rotating gripping assembly 292 are connected directly or indirectly to the base plate 308.

9. Amendment to paragraph on page 28, lines 3-10:

In a similar manner, a lower cylindrical shaft portion of the eccentric pin 426 fits within a cylindrical hole 432 in the carrier disk 382. A top portion of the eccentric pin 426 is [[an]] eccentrically-positioned with respect to the lower shaft portion. The upper portion of the eccentric pin 426 passes through a slot 434 formed in an inner end of the slide member 414. Rotation of the eccentric pin 426 with a screwdriver placed in the slot in its upper portion causes the slide member 414 to pivot about the eccentric pin 424, thereby adjusting the circumferential or tangential position of the pin 418 extending from the slide member 414.

10. Amendment to paragraph at page 29, lines 9-19:

The crescent shape of the gripping surfaces 486 and 488 pushes the strands 54 and 56 of the wire 52 into an oval configuration as shown in Fig. 20, when the wire is gripped. The oval configuration of the strands 54 and 56 creates a non-uniform radial dimension (greater horizontally, as shown in Fig. 20) to the configuration of the strands 54 and 56 when they are pinched together by the gripping surfaces 486 and 488. The non-uniform radial dimension of the oval configuration permits the gripping surfaces 486 and 488 to apply more torque to the wire while untwisting the strands 56 to form the bulge 58 (Fig. 1). The oval configuration of the strands 54 and 56 is more effective in resisting rotational slippage when the bulge is created than a circular configuration of the gripping surfaces which has a uniform radial configuration.

11. Amendment to paragraph on page 36, lines 20-26:

In the context of the present invention, it is desired that a slight tension be applied to the wire while it is severed. To create the tension, gas is delivered to the venturi assembly 540 (Fig. 7) which induces the tension on the wire as it is cut. The tension induced by the venturi assembly is resisted by the spindle 200 and the [[idler]] pinch roller 220 of the wire feed mechanism 104 (Fig. 7) which are non-rotational at this time. The stationary gripping assembly 290 should also be closed to resist the tension created by the venturi assembly 540.

12. Amendment to paragraph on page 36, line 27 through page 37, line 2:

The severed twist pin whose fabrication has just been completed is removed by the inductor mechanism 108 and conveyed through the tube 112 of the twist pinned receiving mechanism 114 and delivered into a receptacle 118 of the cassette 116 (Figs. 6 and 7). More details concerning the inductor mechanism 108 and the twist pin receiving mechanism 114 are described in the above-referenced and concurrently-filed U.S. patent application Serial No. [[190.329]] 09/780,981.